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Weekly 2s

AMOEBIASIS: DIFFICULTIES AND PITFALLS IN THE DIAGNOSIS

A CASE OF LYMPHATIC SPREAD IN A BANTU MALE

S. KLEINOT, F.R.C.S.E., D.P.H.

Johannesburg

The *Endamoeba histolytica* is notoriously deceptive in its manifestations. On closer acquaintance, and with the development of clinical sense, we find that this simple organism is protean in its behaviour. With time, familiarity breeds respect rather than contempt, and any experienced clinician will have stories to tell of his being deceived by this protozoa.

Few organs or tissues enjoy immunity from the *Endamoeba* and its proclivity for mimicry is notorious. The initial assault is on the large bowel, where stasis affords an opportunity for the organism to gain a foothold. Once established, the liver becomes a comparatively easy target via the portal circulation, and blood-borne infection occasionally involves the brain and the spleen. Even the epididymis, bladder, urethra¹ and ureter² have not been immune. Granulomatous ulceration of the abdominal parietes after colostomy is a fairly common experience. Skin lesions occur in the vicinity of discharging liver sinuses and papillomata in the anal region become secondarily infected in the victims of amoebiasis. This insidious process of infiltration by an invader that is a pastmaster in the art of camouflage makes it readily understandable that the most wary and astute of clinicians have occasionally been led astray. The occasional case of acute appendicitis or appendicular abscess that unexpectedly dies, following the recognized surgical treatment of such conditions, and that proves on histological examination to be an amoebic infection, has given the experienced surgeon a nasty jolt on more than one occasion. The carcinoma of the large bowel which turns out to be an 'amoeboma' has been no less embarrassing. That the chronic amoebic ulcer or papilloma can and does undergo malignant change has complicated the problem; a preliminary barium enema and radiological investigation may not provide a solution.

Other conditions, which amoebiasis may closely simulate include haemorrhoids, carcinoma or gangrene of the rectum, intestinal obstruction, tuberculous enteritis, cholecystitis, ascending pyelophlebitis and perforated peptic ulcer. Despite this formidable list,

the surgical complications of amoebiasis, other than liver abscess, has 'received scant attention in the textbooks' (Manson-Bahr).³

Lymphatic Invasion in a Bantu Male. The mode of propagation in all the cases so far referred to, has been by the bloodstream or occasionally a direct extension. In the case here reported invasion of the lymphatics occurred. This unusual mode of extension resulted in a very uncertain and confusing clinical picture, produced an unrecognizable condition on the operating table and presented a problem in the post-mortem room, histological examination being necessary to place the diagnosis beyond doubt. The literature contains reference to only one other case of lymphatic spread, that occurring in a child 5 years of age, recently reported by Bazan and Sujoy.⁴

CASE REPORT

A poorly-nourished adult Bantu male was admitted to the medical wards at the Coronation Hospital as a case of chronic alcoholism, with abdominal discomfort. He gave a history of constipation but soon after admission passed a diarrhoeic stool. Later in the day he complained of severe epigastric pain and at this stage he was seen for the first time. Examination revealed a state of collapse with markedly reduced blood pressure and rapid pulse, tenderness most marked in the epigastric region, diffuse abdominal rigidity and tenderness on rectal examination. He showed all the signs of an acute abdomen and, in view of his collapsed condition, laparotomy under local anaesthesia was decided on.

Operation. A two-inch supra-umbilical, midline incision was made, and the peritoneal cavity was found to contain a small quantity of blood-stained fluid. The incision was then extended below the umbilicus to give a more liberal exposure. The abdominal cavity contained blood-stained fluid and the omentum was non-adherent. No faecal odour was detected, nor any sign of ruptured viscus. The small bowel appeared quite

normal, but in sharp contrast the large bowel was the seat of gross pathological change. It was markedly inflamed, swollen, bright red in colour, with congested vessels and fibrinous exudate on its serous surface; to the touch it felt rigid and as solid as a hose pipe in its ascending and transverse portions, and in the first inch or two of the descending portion, when it abruptly changed to normal. The mesenteric lymph glands in relation to the proximal colon were enlarged and fleshy. The spleen and liver appeared normal.

This unusual appearance of the proximal colon, particularly the regional nature of the inflammatory lesion which was strictly localized and ended abruptly at the commencement of the descending colon and was of the consistency of a hosepipe, led to a tentative diagnosis of Crohn's disease. There being no detectable perforation and the patient's condition being far from satisfactory, it was deemed wise to close the abdomen without drainage.

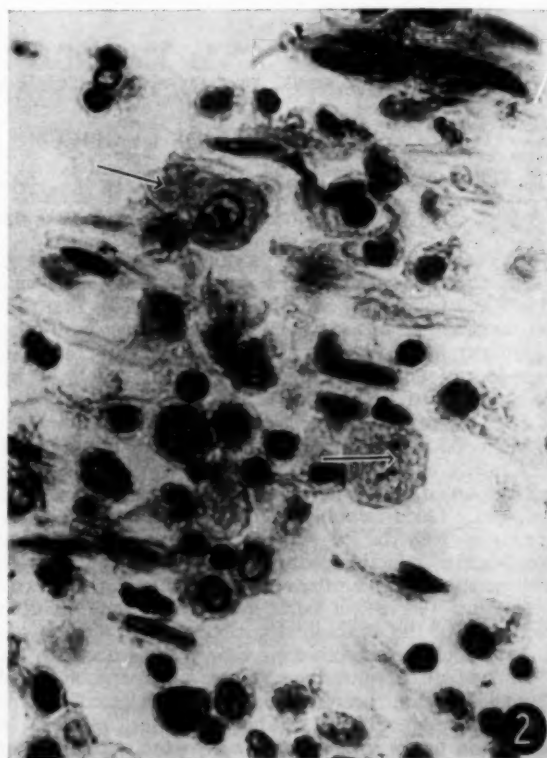
After operation, the patient appeared to rally on transfusion and infusion therapy and/or plus the administration of antibiotics, but died suddenly the following day.



Post-Mortem Findings. Hypostatic congestion and oedema, with atelectasis of left lung, was present. The heart showed brown atrophy. Haemosiderosis of the ileum and jejunum was found. The caecum and colon showed extensively necrosis with ulceration which

involved the *entire* diameter of the bowel, with abrupt change to normal at the commencement of the descending colon. There was advanced fatty change and bile staining of the liver. A small porencephalic cyst in right parietal region of the brain. The lymph glands: Enlarged and pale.

Naked-eye appearance of the colon was not conclusive. Histological examination revealed the presence of amoebae in the lymphatics of the bowel wall and in the related lymph glands (Figs. 1 and 2).



COMMENTARY

The unusual invasion of the lymphatics tended to produce a transverse spread in the bowel wall, not unlike that which occurs in tuberculosis. This will explain the unusual appearance of the large gut, which made the diagnosis doubtful; it would also account for the 'hosepipe feel' of the proximal colon at operation, a strange and unfamiliar picture not readily recognizable. The mistaken diagnosis of a non-specific granuloma, or Crohn's disease, was a pardonable error under the circumstances. Although Crohn⁵ described his disease as 'regional ileitis', it is now known that almost any part or parts of the gastro-intestinal tract may be involved. Almost thirty years before Crohn's classical description of the lesion Koch⁶ referred to this non-specific granuloma as an 'inflammatory fibrous colonic tumour', and more recently James⁷ described

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it as occurring in the colon alone. Though the exact aetiology is still obscure a combination of infection and lymphatic obstruction has been advanced as the prime factor. Upham⁸ points out that 'infection entering the ileo-caecal region produces an occlusive, mesenteric lymphangitis and lymphadenitis, which lead in turn to oedema and granuloma formation'. In the present case, invasion of the lymphatics by the amoebae, would account for the unusual picture of an 'inflammatory colonic tumour', seen at operation and mistaken for the acute form of Crohn's disease. This case emphasizes the capacity of *E. histolytica* to mimic other pathogens, and adds yet another and hitherto unsuspected variant of the activity of the amoeba to the long list mentioned earlier.

The grave condition of the patient made any chance of recovery very slight indeed. There can be little doubt that any hope rested in the administration of anti-amoebic therapy such as emetine. Failure to recognize the true pathology resulted in such treatment being withheld. This case demonstrates also the value of stool examination for amoebae and cysts prior to abdominal operation, and the absolute necessity for alertness in the handling of patients resident in or coming from areas where amoebiasis is prevalent. Particularly is this so in the case of Bantu patients, from whom accurate histories are notoriously difficult to elicit and in whom textbook clinical pictures should not always be sought. *Ex Africa semper aliquid novi*.

Amoebiasis has for years occupied the attention of the physician, the pathologist and bacteriologist and, in more recent times, as Craig⁹ indicates, it has fallen within the recognized province of the expert in public health and preventive medicine. The surgeon, however, has not yet given to this disease the attention it warrants.

SUMMARY

1. The surgical complications of amoebiasis are briefly reviewed and references made to some of the commoner difficulties encountered.

2. A warning is sounded against the tendency to pay insufficient heed to the variegated pathogenicity of *E. histolytica* and a plea is made for greater interest in it by the surgeon.

3. Most of the standard textbooks on surgery and surgical pathology dispose of the subject of amoebiasis by dealing with the hepatic complications, little or no reference being made to the lesions occurring in other organs of the body.

4. An extremely unusual case of amoebiasis in a Bantu male, showing lymphatic spread and simulating Crohn's disease, is reported as an illustration of the pitfalls that confront and confound the clinician.

I am grateful to Dr. S. Siew of the Department of Pathology, University of the Witwatersrand, who conducted the post-mortem examination and who was responsible for the histological investigation. I also wish to thank Mr. F. A. Brandt, M.A., B.Sc., of the S.A. Institute for Medical Research, by whom the photomicrographs were prepared.

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A CASE OF ATYPICAL COLOBOMA

L. SCHRIRE, M.Sc., M.B., Ch.B., D.O.M.S.

Kimberley

Fuchs¹ once stated that congenital colobomata of the iris were always inferior, but this view has subsequently been refuted. Bock, Rumschewitz, and Manz² found the frequency to be 24% in; 21% down; 19% out; 12.5% up and in; 11.5% up and out; 11.5% up. Thus they may appear in any part of the iris. They are usually unilateral, usually single but may be bilateral and occasionally multiple in the one eye.

Duke-Elder³ has classified iris colobomata in two categories: (a) Those due to an aberration of retinal epiblast, where the foetal cleft has not closed, or has done so abnormally. The ciliary body is therefore also involved and frequently colobomata of retina and choroid co-exist;

(b) Where there is a normally closed fissure, i.e. where iris alone is involved and there is no associated coloboma of the fundus.

These common congenital anomalies may be subdivided clinically into total or partial colobomata; complete or incomplete; typical (i.e. in the position of the foetal fissure) or atypical. As we recently saw an atypical complete iris coloboma, it was thought that it might be of interest to report it.

Case Report. Mrs. C. J. B., aged 26 years, consulted me with the hope of obtaining better visual acuity with the aid of new glasses. She stated that she was born with a cataract in her right eye and a cataract was noticed in her left eye at the age of 2-3 months. The left eye was needled on two occasions, and these were the only eye operations undergone. She received glasses for the right eye at the age of five years and has had frequent changes since then. The last refraction was done three years ago, but vision has been deteriorating during the last six months.

Family History. The parents are not consanguineous. There is nothing similar in the grandparents, parents or uncles and aunts. She is the only child. Her birth was normal but her mother ailed ever after her birth and died not long afterwards. The family history is therefore negative from the hereditary aspect.

On Examination. V.R. = 4/60; with glasses = 6/36; V.L. = H.M.; with glasses = H.M.

Right eye: with -17.00 sph \odot + 5.50 cyl. ax. 110 = 6/36.
Left eye: with +2.25 sph = not improved.

Right Eye. The cornea had a diameter of 12 mm. The pupil measured 4 mm. \times 6 mm. and its temporal edge reached the centre of the cornea. The edges of the coloboma were parallel but slanting upwards to form the gap at between 2 and 4 o'clock. Reaction to light was brisk.

The edge of the lens was visible, and the sphincter was present along the whole edge of the iris, thus differentiating this condition from a surgical iridectomy.

There were several strands of persistent pupillary membrane from below, and there was a small localized posterior cortical lens opacity. The fundus details could be seen and appeared normal but the vitreous had several floaters.



Left Eye. This was aphakic with a few capsular tags remaining. One strand of capsule stretched forward and was adherent to the posterior corneal surface. The fundus appeared normal. The macula was not clearly seen.

Musculature. There was a left concomitant convergent strabismus of about 45° (Fig. 1). Fixation was only possible with the right eye. The abduction of both eyes was very defective and with elevation this defect was also noticeable. There was a low grade nystagmus more noticeable in the left eye.

As there were several unusual features in this case, e.g. the atypical coloboma, her previous ophthalmologist was consulted. When seen by Dr. J. W. Harris of Port Elizabeth in 1943, the condition was exactly the same as now, except that the additional note had been made: 'Very fluid shiny vitreous, shiny corpuscles seen in the anterior chamber with the naked eye. The post-cortical opacity was present and is obviously stationary, as her V.A. was then 6/36 with corrections. Her myopia has increased considerably. Retinoscopy

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then was _____ but only the sphere (i.e. - 4.00d cyl axis 100 - 9.00) was prescribed. Two needlings had been performed by a colleague in 1930 elsewhere'.

Discussion. The case described has several interesting features. It is an iris coloboma in an atypical position occurring in a myopic eye which has deteriorated during the years while it was under observation. It is also associated with several other congenital anomalies (e.g. persistent pupillary membrane; marked convergent strabismus and a congenital cataract). The fellow-eye was also associated with a congenital cataract which had been needled at the age of eight years.

Many aetiological theories have been put forward to explain the origin of iris colobomata. The most popular theory is that of Hess (1888)⁴ which attributes the defect to abnormal development and persistence of vascularized strands belonging to the fibrovascular capsule of the lens, forming an early anastomosis between the hyaloid blood vessels and the vascular circulation at the rim of the optic cup. In the light of this case this theory would also account for the association of the pupillary membrane and posterior lens opacity.

SUMMARY

1. A case of atypical coloboma of the iris is described associated with other congenital anomalies.
2. There is no family history of similar occurrences.
3. The opposite eye had a congenital cataract, which had been needled without any functional improvement.

My grateful thanks are due to Dr. J. W. Harris for helpful advice and criticism, and to Mr. P. N. Lloyd for the excellent photograph.

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ABSTRACT

C. Grassi Bertazzi, *Quinine and Marenin in the Treatment of the Variety of Typhus Fever occurring in East Sicily*. *Medicina Italiana* (1947): 27, No. 6.

The author reports on five clinical observations of particularly interesting cases of typhus fever of the murine variety, which is endemic in East Sicily. The disease is generally considered to be benign, though serious and complicated cases are not rare; the author is familiar with the classic form of typhus fever in East Africa, where it is transmitted by *pediculus vestimenti* and he is of the opinion that the Sicilian variety should be taken more seriously. As in every other infection early diagnosis is very important as it enables prompt treatment.

Many different modes of treatment have been advocated by various authors; Grassi Bertazzi prefers treatment with quinine, combined with marenin, the latter being a trade name for metatolyl-hydrazine carbonate.

Treatment is started with quinine bisulphate, 0.5 gm. four times a day, for four days. Marenin is added as soon as the fever has abated to 38° C (= 100.4° F), in a dosage of 0.25 gm. three times daily. In this way complete recovery is attained after six to eight days; the exanthema disappears gradually after the fever has come down.

There was no question of a faulty diagnosis as in all of the five patients the Weil-Felix reaction was positive and no parasites were found in their blood.

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South African Medical Journal

Suid-Afrikaanse Tydskrif vir Geneeskunde

EDITORIAL

SPECIFICATIONS FOR ETHER

Three specifications for ether covering anaesthetic ether, solvent ether and technical ether have been published by the Standards Council.*

Manufacturers producing any of the three types of ether to the relevant specification may by arrangement with the Standards Council, apply the Council's standardization mark to their products as evidence that the products are being made in accordance with the specifications and that compliance therewith is ensured by tests and inspections carried out by the South African Bureau of Standards.

The requirements for anaesthetic ether as laid down in the Council's specification S.A.B.S. 83-1949 are the same as for *Aether Anaestheticus* prescribed in the British Pharmacopoeia, 1949. Hospitals and medical institutions purchasing anaesthetic ether bearing the S.A.B.S.-ellipse mark will be assured of obtaining a product of the required purity. This purity is ensured by the sections of the specification dealing with physical and chemical requirements and the fact that anaesthetic ether bearing the S.A.B.S.-ellipse mark is liable for test by the South African Bureau of Standards.

A South African manufacturing firm producing ether has recently been granted permission to apply the S.A.B.S.-ellipse mark to its anaesthetic ether.

The physical and chemical requirements for solvent ether and for technical ether laid down in specifications S.A.B.S. 84-1949 and S.A.B.S. 85-1949 also ensure that these two types of ether are thoroughly suited to the respective needs of pharmacists and chemical manufacturers.

The important subjects of packaging, labelling or marking are covered in the three specifications which also include sections dealing with sampling and rejection and physical and chemical tests.

All three types of ether are now being produced in South Africa in quantities sufficient to supply the Union's needs, so these specifications will provide a practical guide to both user and producer.

* Copies of the specifications S.A.B.S. 83-1949, S.A.B.S. 84-1949 and S.A.B.S. 85-1949 priced at 5s. per copy post free are now obtainable from the South African Bureau of Standards, Private Bag 191, Pretoria.

VAN DIE REDAKSIE

SPESIFIKASIES VIR ETHER

Drie spesifikasies vir eter wat eter as verdowingsmiddel, eter as oplosmiddel en handelseter dek, is deur die Raad vir Standaarde gepubliseer.*

Fabrikante wat enige van die drie soorte eter volgens die toepaslike spesifikasie produseer, mag met die Raad vir Standaarde se goedkeuring die Raad se standaardmerk op hul produkte aanbring as bewys dat die produkte ooreenkomstig die spesifikasie vervaardig word en dat die Suid-Afrikaanse Buro vir Standaarde deur toetse en inspeksies verseker dat aan die vereistes van die spesifikasies voldoen word.

Die vereistes vir eter as verdowingsmiddel soos in die Raad se spesifikasie S.A.B.S. 83-1949 neergelê, is dieselfde as vir *Aether Anaestheticus* in die Britse Pharmacopoeia, 1949, voorgeskryf, en hospitale en mediese inrigtings wat eter as verdowingsmiddel met die S.A.B.S.-ellipsmerk daarop koop, kan verseker wees dat hulle 'n produk van die vereiste suiwerheid verkry. Hierdie suiwerheid word verseker deur die afdelings van die spesifikasie wat oor die fisiese en chemiese vereistes handel sowel as deur die feit dat eter as verdowingsmiddel wat die ellipsmerk van die S.A.B.S. daarop het, onderhewig aan toetse deur die Suid-Afrikaanse Buro vir Standaarde is.

Toestemming is onlangs verleë aan 'n Suid-Afrikaanse fabrikant wat eter vervaardig, om die ellipsmerk van die S.A.B.S. op sy eter as verdowingsmiddel aan te bring.

Die fisiese en chemiese vereistes vir eter as oplosmiddel en vir handelseter wat in spesifikasies S.A.B.S. 84-1949 en S.A.B.S. 85-1949 neergelê is, verseker ook dat hierdie twee soorte eter heeltemal geskik is vir die onderskeie behoeftes van aptekers en chemiese fabrikante.

Die belangrike onderwerpe van verpakking, etikettering en merk word in die drie spesifikasies gedek wat ook afdelings wat handel oor monsterneming en afkeuring, en fisiese en chemiese toetse, insluit.

Al drie soorte eter word nou in Suid-Afrika in voldoende hoeveelhede vervaardig om in die Unie se behoeftes te voorsien. Daarom sal die publikasie van hierdie spesifikasies as praktiese gids vir verbruiker sowel as fabrikant dien.

* Eksemplare van die spesifikasies S.A.B.S. 83-1949, S.A.B.S. 84-1949 en S.A.B.S. 85-1949 is nou teen 5s. per eksemplaar posvry verkrygbaar by die Suid-Afrikaanse Buro vir Standaarde, Privaatsak 191, Pretoria.

THE IDENTIFICATION OF THE LUMBAR GANGLIA

JOSEPH LANNON, F.R.C.S. (ENG.), F.I.C.S. (HON.)

and

ELIZABETH WELLER, M.B., CH.B. (RAND)

Johannesburg

Conflicting views have been expressed by different authorities regarding the extent of denervation of the lower limbs and the question of sterility following lumbar sympathectomy. The great variation in results may possibly be due to errors in identification of the different ganglia. We feel that when resection of the lumbar ganglion is undertaken, it is necessary to identify each ganglion with a reasonable degree of certainty. To do this successfully the variation in their size and shape and their position in relation to contiguous structures must be known.

In order to determine these features the lumbar sympathetic chains in 32 adult Bantu cadavers have been dissected and studied with regard to the following:—

1. Number of ganglia in each chain.
2. Relation of ganglia to vertebral bodies.
3. Fusion of the ganglia.
4. Relation of the lumbar chain to the diaphragm.
5. Identification of the individual ganglia and their relation to contiguous structures.

These results show such a degree of consistency that we have felt justified in recording them as a guide to the identification of these ganglia.

1. *Number of Ganglia in Each Chain.* In 24 bodies (i.e. three out of every four studied), both the right and left chain had four ganglia; in six bodies there were four on one side and five on the other, whilst in two there were five on either side. Thus five ganglia were present in 10 out of 64 chains examined, or less than one in six.

2. *Relation of Ganglia to Vertebral Bodies and Discs.* With few exceptions we found each ganglion to be related, not to the numerically equivalent lumbar vertebrae, but to the one below it. To identify the ganglia, therefore, it is incorrect to rely on the corresponding anatomical numbers of the vertebrae. The ganglia, also, commonly extended on to the adjacent discs. Variations in the relations of the individual ganglia are tabulated below.

The lumbar chain has a forward convexity conforming to the similar curve of the lumbar vertebrae. In consequence the first and fourth ganglia lie far back, while the third is situated at the point of maximum anterior convexity and is, therefore, more accessible.

3. *Fusion of the Ganglia.* Not uncommonly the first and second ganglia were fused. The second and third showed this less frequently, while the fourth was always an isolated ganglion. In some instances of fusion between the second and third, a thin trunk two to three inches in length, existed between the third and fourth ganglia. This feature may produce a doubt in the mind of the surgeon about the identity of the structure with which he is dealing.

4. *The Diaphragm and the Lumbar Chain.* We thought it advisable to assess this relationship for two reasons:

i. By division of the diaphragm, following the Smithwick technique of lumbar dorsal splanchnicectomy, the upper two ganglia can be exposed with comparative ease.

ii. The first lumbar ganglion is difficult to approach by the posterior extra peritoneal route and, more especially with an anterior approach, because it is obscured by the crus.

The crura in the neighbourhood of the first lumbar ganglion are thick and fleshy, but inferiorly they become increasingly tendinous, not uncommonly merging inextricably with the anteromedial border of the psoas. On occasions white tendinous bands extend downwards from the lower part of the crura, even as far as the fifth lumbar vertebra. These strands may cover and obscure the chain for which they could easily be mistaken by the inexperienced. This is especially so when the ganglia are widely separated.

The following table summarizes our findings in regard to the relationship of the diaphragm to the ganglia.

		Right	Left	Total
Entire chain uncovered	—	6	6
Ganglion 1 covered	18	12	30
Ganglion 1 and part of 2 covered	8	8	16
Ganglion 1 and all of 2 covered	4	2	6
Ganglion 1, 2 and part of 3 covered	2	4	6

These figures show that it is the rule for the first ganglion to be covered, but that it is exceptional for the second to be completely obscured.

5. *Identification of the Individual Ganglia: First Lumbar Ganglion—Configuration and Connections.* In nearly every case this ganglion was small and rounded. In 25 instances there was a considerable degree of fusion between the first and second ganglion; consequently the second may be difficult to remove without damage to the first. At its upper pole the first ganglion has a most characteristic shape, best described as a V (Fig. 1). The one arm of the V is formed by the descending sympathetic trunk from the twelfth thoracic ganglion, the other by the ramus proceeding from the first lumbar ganglion to the first lumbar or twelfth thoracic nerve. This V at the upper pole is a most distinct and definite feature of the first lumbar ganglion and was not encountered elsewhere in any of the lumbar chains examined and is thus a valuable feature in its recognition.

A slight variation was present in a small number, in that one or more additional fibres were noted passing in a backward direction. This feature did not, however, detract from the characteristic upper pole.

	Right	Left	Total
Lumbar 1 typical	28	24	52
Lumbar 1 with two backward fibres	3	6	9
Lumbar 1 with three backward fibres	1	2	3

In connexion with the formation of the V it was noted that in the majority of cases the descending sympathetic trunk from the twelfth thoracic ganglion

was thin and delicate, whilst the ramus from the first lumbar ganglion to the twelfth thoracic or first lumbar nerve was thicker and more distinct. In some cases, on the contrary, the trunk was thicker than the ramus, while in a few instances they were of equal thickness. This variation in thickness is important in performing lumbar dorsal splanchnicectomies. When the lumbar ganglia are removed first and the chain is traced upwards, one may inadvertently follow up the thick

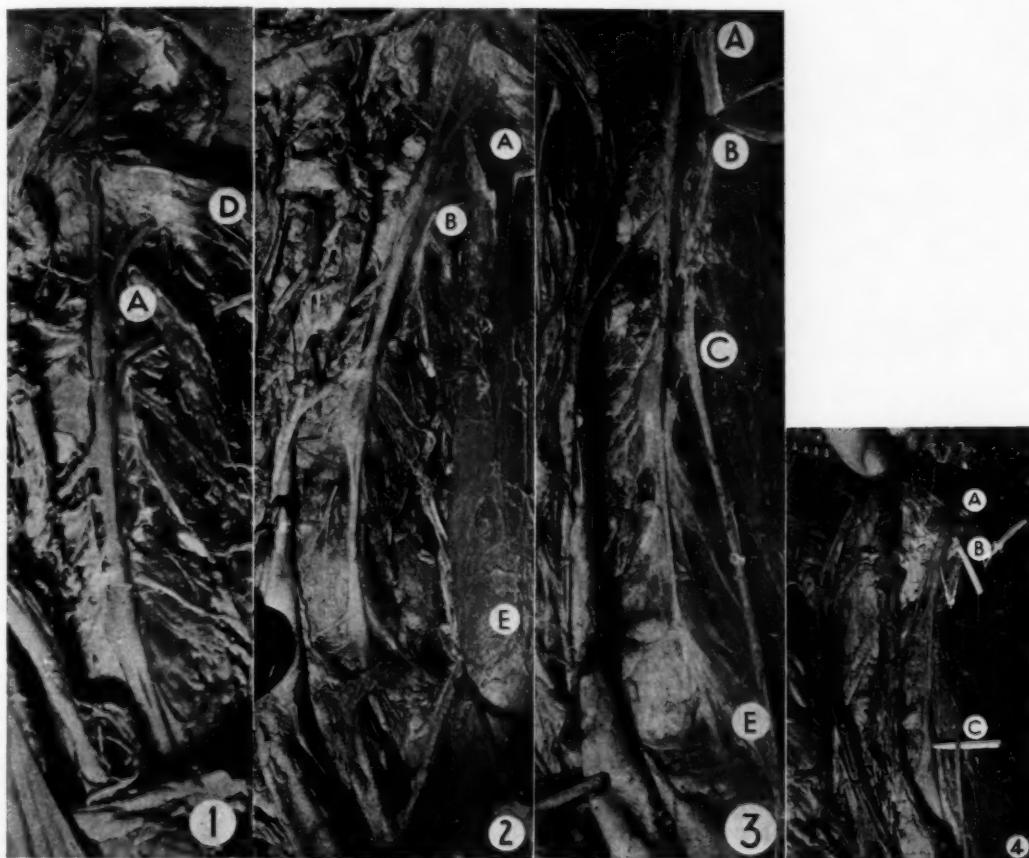


Fig. 1. The Sympathetic chain on the left side.

A. L1 Ganglion: Note the V shape at its upper pole. The vertical ramus is passing up to the twelfth thoracic ganglion.

D. Crus of diaphragm turned back. It completely obscured L1 ganglion.

Fig. 2. The sympathetic chain on the left side.

A. Lumbar 1 ganglion: Note the V at its upper pole.

B. Lumbar 2 ganglion: Note the large size and the two rami proceeding from its lateral border.

E. A large ilio-lumbar vein: Closely associated with the lower pole of lumbar 4 ganglion.

Fig. 3. The sympathetic chain on the left side.

A. Lumbar 1 ganglion.

B. Lumbar 2 ganglion: The scalpel blade is holding back the crus, which has been divided. It obscured both these ganglia. Muscle fibres can be seen medial to the chain.

C. Lumbar 3 ganglion: The genito-femoral nerve is seen emerging from the psoas at the level of this ganglion.

E. Lumbar 4 ganglion: Note the large ilio-lumbar vein covering the ganglion. The common iliac vessels have been pulled medially.

Fig. 4. A. Lumbar 1 ganglion: Note the V at the upper pole.

B. Large Lumbar 2 ganglion: Note its close association with lumbar 1 ganglion, and the two visceral branches to the aortic plexus.

C. Lumbar 3 ganglion: The genito-femoral nerve is emerging at the level of the ganglion.

posterior ramus mistaking it for the upward continuation of the chain into the thorax. (Personal communication from Mr. A. Lee McGregor.)

	Right	Left	Total
Ramus to nerves thicker than sympathetic trunk	22	24	46
Ramus to nerves thinner than sympathetic trunk	8	5	13
Ramus to nerves and sympathetic trunk equal	2	5	7

Relation to the Vertebral Column. The first lumbar ganglion was usually related to the second lumbar body, even where fusion had occurred; other variations did exist as seen in the following table:—

	Right	Left	Total
Related to first vertebral body	7	8	15
Related to first body and disc between first and second bodies	1	1	2
Related to discs between first and second bodies	2	3	5
Related to second vertebral body	14	15	29
Related to second body and disc between second and third body	2	2	4
Related to disc between second and third body	1	2	3
Related to third body and disc between second and third body	5	1	6

Atlas¹ stated that 'this ganglion rested on the second lumbar vertebra and was occasionally overlapped by the intermediate crus of the diaphragm. Its connexions with the first lumbar nerve left the ganglion in a cephalad direction . . . at times it was completely or incompletely fused with the proximal pole of the ganglion just distal to it'.

A further feature of the first lumbar ganglion is that it is bound down to the body of the vertebrae by dense, transverse, ligamentous fibres passing from the crus to the bone and its mobilization at times is difficult.

Second Lumbar Ganglion: Configuration and Connexions. This ganglion (Fig. 2) was the most easily identified as it was without exception the largest and the most conspicuous ganglion. Moreover, the largest of the visceral rami of the whole chain passes medially from it. Its most characteristic features were branches running postero-laterally. These vary from 2-4 in number, are of varying thickness and run with a graceful curve upwards and backwards from the lateral border of the ganglion in the vicinity of its upper pole. There were 60 typical ganglia and only four atypical; these latter were fused with the third ganglion.

	Right	Left	Total
Typical ganglion with two posterolateral rami	18	17	35
Typical ganglion with three posterolateral rami	8	10	18
Typical ganglion with four posterolateral rami	4	3	7
Atypical (fused with lumbar three)	2	2	4

Relation to the Vertebral Column. By reason of its large size, lumbar 2 ganglion had the most extensive

vertebral relations as compared with the others. In the majority of cases it extended from the third lumbar body, over the disc and on to the body of the second.

	Right	Left	Total
Related to disc between first and second body and second body	1	1	2
Related to second body	—	1	1
Related to second body and disc between second and third, and third body	11	10	21
Related to disc between second and third, and third body	18	15	33
Related to third body	1	2	3
Related to second body, disc between second and third, third body and disc between third and fourth	1	3	4

Third Lumbar Ganglion. Configuration and Connexions. In our series, the third lumbar ganglion was long and thin, usually with only one or two rami proceeding from it (Fig. 3). These were directed from the lower pole passing downwards and backwards. This was also reported by Atlas¹ and Pearl.²

Relation to the Vertebral Column. Again it was noted that this ganglion was related to the vertebra numerically below it. In one case the ganglion was very low, being related to the disc between L4 and L5 and the upper part of the fifth body. In this instance, however, the whole chain was much lower and it was found that the fourth ganglion was resting on the disc between the fifth lumbar and first sacral vertebrae.

	Right	Left	Total
Related to second and third body	1	—	1
Related to disc between second and third	1	1	2
Related to third body and disc between third and fourth	4	4	8
Related to disc between third and fourth	5	6	11
Related to third body, fourth body and disc between third and fourth	1	1	2
Related to fourth body and disc between third and fourth	8	7	15
Related to fourth body	12	11	23
Related to fourth body and disc between fourth and fifth	—	1	1
Related to fifth body and disc between fourth and fifth	—	1	1

Relation of Lumbar 3 to the Genito-Femoral Nerve. The ganglion was frequently found to be related to the genito-femoral nerve at its point of emergence from the substance of the psoas muscle (Fig. 4). We consider that this relationship was most important in the identification of this ganglion. In the one case where the genital and femoral branches remained separate it was found that the femoral branch maintained the relationship of the nerve to the ganglion.

	Right	Left	Total
Instances where nerve emerged on a level with the ganglion	25	26	51
Instances where nerves did not emerge level with ganglion	7	6	13

Fourth Lumbar Ganglion: Configuration and Connexions. The fourth lumbar ganglion was notably

different in shape from the others. It seemed to be suspended at right angles to the chain by two short arms, causing us to term it the 'hanging' ganglion, and usually had two to three rami passing from it. Another feature was that it lay extremely deep in the triangle of Marcille, the boundaries of which are as follows:—*Medial*: body of fifth lumbar vertebra; *Inferior*: upper surface of ala of sacrum; *Floor*: transverse process of fifth lumbar vertebra the ilio-lumbar and lumbo sacral ligaments; *Lateral*: the inner border of the psoas muscle. The psoas muscle in this position has risen away from the vertebrae and consequently has a deep sloping medial surface. Surgical access to this ganglion, therefore, is rendered most difficult by its deep obscurity among the numerous important structures in this triangle.

Relation to the Vertebral Column. This ganglion usually rested on the fifth body, and sometimes extended on to the neighbouring discs.

	Right	Left	Total
Related to fourth body and disc between fourth and fifth ..	5	2	7
Related to disc between fourth and fifth ..	2	7	9
Related to disc between fourth and fifth and fifth body ..	4	6	10
Related to fifth body ..	16	15	31
Related to fifth body and disc between fifth and first sacral body ..	5	2	7

Relation to the Ilio-Lumbar Vein. Another distinguishing feature of the fourth lumbar ganglion was its close relationship to the ilio-lumbar vein which runs anterior to it (Fig. 5). This vein is short, wide and difficult to retract. In most cases the vein completely covered the ganglion, though in a few cases it bore a more distant relationship.

	Right	Left	Total
Ganglion covered by ilio-lumbar vein ..	24	25	49
Ganglion exposed ..	8	7	15

It should be pointed out that in the cases where the vein did not cover the fourth ganglion, there were five ganglia in the chain. This feature is elaborated later.

Relation to the Brim of the Pelvis. It is of significance that with few exceptions the ganglion lay below the level of the highest point of the iliac crests. In these instances, when performing a paravertebral block it would be impossible to strike the ganglion.

	Right	Left	Total
Ganglion below the crest of the ilium ..	25	23	48
Ganglion on a level with crest of ilium ..	3	6	9
Ganglion above the crest of the ilium ..	4	3	7

The Lumbar 5 Ganglion Chain. When a fifth ganglion was present, identification of the remaining four was in no way vitiated. The relationship of lumbar 4 ganglion to the brim of the pelvis was not altered, but the ilio-lumbar vein lay between the fourth and fifth ganglia.



Fig. 5. A fused ganglionic chain.

A. Lumbar 1 ganglion.

B. Lumbar 2 ganglion.

C. Lumbar 3 ganglion: Note the emergence of the genito-femoral nerve.

E. Lumbar 4 ganglion: With the associated ilio-lumbar vein.

SUMMARY

The lumbar sympathetic chains have been dissected in 32 cadavers. The following anatomical features of the ganglia are described in detail:

1. Configuration and shape.
2. Relationship to vertebral bodies.
3. Relationship to contiguous structures.

It is considered that by means of these features the individual ganglia can be more accurately identified than has hitherto been possible.

Our thanks are due to Prof. R. A. Dart who afforded facilities, and to Mr. A. Lee McGregor and Dr. M. Suzman for their invaluable advice and criticism.

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CERVICAL SPINE IMMOBILIZATION

J. J. COMMERELL, M.B., CH.B., M.CH. ORTH., LIVERPOOL, F.R.C.S., EDIN.

Orthopaedic Department, Groote Schuur Hospital, Observatory, C.P.

Fig. 1 illustrates a Thomas cervical collar modified to control not only flexion but also extension, lateral bend and rotation.

It has the advantages of being easy to construct, inexpensive, comfortable and cool. The patient can change his shirt and wash without removing the splint.

The head is firmly splinted to the shoulders and trunk so that bed cases can be turned with minimal manual control of the head. This makes the collar particularly useful in treating both cases of recent fracture of the cervical spine and tuberculosis, and especially so when orthopaedic nursing staff is not available.

The collar has proved useful in a varied number of conditions:—

1. Tuberculosis of the cervical or high dorsal spine treated on a Thomas frame.

2. Tuberculosis of the cervical or high dorsal spine perforce treated as ambulant cases. Here the collar can be used alone or in conjunction with a posterior spinal support.

3. In the Treatment of Fractures of the Cervical Spine. In recent cases it can be used as an effective splint allowing for easy nursing. If traction is required the chin piece and occipital strap may be well padded and the extension applied to the top of the upright loops. In ambulant cases of fracture or fracture dislocation the control of all movements is invaluable.

4. In treating osteoarthritis of the cervical spine the

collar is effective and comfortable and can be easily taken off and re-applied.

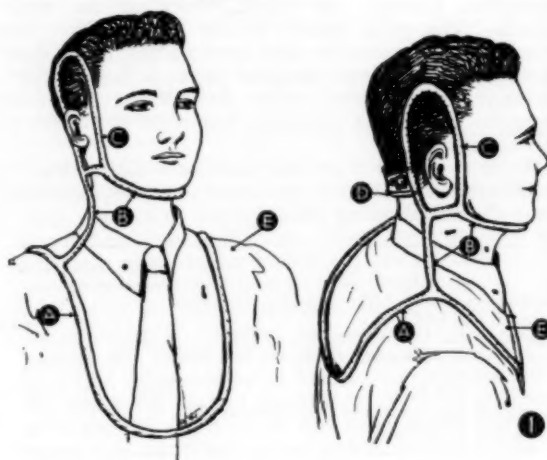


Fig. 1

A. Yoke—may be full or left open in front or behind to meet the case. The posterior part can be flat or covered with wash-leather for bed cases.

B. Upright with chin piece can be set to hold head in desired extension or flexion.

C. Uprights to encircle ears and grip the cranium lightly but firmly. These must be adequate in height and width.

D. Wide occipital strap.

CHRONIC VAGINAL DISCHARGE IN A CHILD

AN UNUSUAL CASE

WERNER WEINBERG, M.B., CH.B. (RAND), M.D. (BERLIN)

Johannesburg

S. H., 7 years old, was seen by me on 18 July 1950. She complained of a persistent yellowish vaginal discharge since May 1948 and a rash on the vulva.

In May 1948, in Lusaka, the child developed the yellowish discharge suddenly. Since May 1948 she was under constant medical supervision and treatment by several doctors without any improvement. Neither penicillin injections, Sulphadiazine tablets, local treatment or oestrogen therapy improved the condition.

The vulva was very reddened and a thickish, foul-smelling, yellowish discharge from the vagina was present. On rectal examination some resistance was felt in the vagina which evoked at once the suspicion of

a foreign body. A sound was passed into the vagina and a grating sensation was noticed.

Bacteriological examination of vaginal smears revealed numerous pus cells and gram-positive cocci resembling staphylococci and streptococci. Acid-fast bacilli were not seen. Culture yielded a moderate growth of *Staphylococcus aureus*. The organism proved to be sensitive to Chloromycetin, Streptomycin, Aureomycin and Terramycin but insensitive to Tyrothricin, Penicillin, Sulphamerazine, Sulphathiazole and Sulphapyridine.

X-ray examination of the lower abdomen and pelvis (Dr. I. A. Brotman) showed a long hairpin in the lower

pelvic region, situated above the symphysis pubis (Fig. 1).

On 26 July 1950 I removed the hairpin, which was embedded in the mucosa of the vagina, under general anaesthesia.



The child was given Terramycin capsules in the following manner on four successive days:

1st day: one capsule 6 times daily.

2nd day: one capsule 6 times daily.

3rd day: one capsule 4 times daily.

4th day: one capsule 4 times daily.

The last examination of the child on 4 August 1950 showed her to be completely cured.

This case is reported because of the unusually long duration of a vaginal discharge in a child (2 years and 2 months) and the interesting diagnostic problem involved.

My thanks are due to Dr. W. Lewin for the bacteriological examinations performed on this case.

QUESTIONS ANSWERED

SPREAD OF INTRACRANIAL SUPPURATION

Q. A Zulu male aged 35 years was admitted to the Eshowe Hospital on his fourth day of illness, complaining of cough, dyspnoea and pain in the chest; his right eye was painful and swollen, he was feverish and he complained of a severe frontal headache.

On Examination. The temperature was 105°F. There was marked proptosis and chemosis of the right eye and right papilloedema.

There were signs in the chest of a bilateral lobar pneumonia. The patient was treated with large doses of penicillin and Sulphathiazole. He died on the fourth day after admission.

Post-mortem Examination. A small abscess was present near the hilum of the right lung and bilateral basal pneumonia was found. The right cavernous sinus contained grey-green pus. There was a glairy exudate around the pituitary fossa and the occipital bone anterior to the foramen magnum. All other venous sinuses were unaffected. Both middle ears were normal. There was no brain suppuration.

By what anatomical route did the infection spread from the right lung to the right cavernous sinus without involving the brain?

Is it by way of a special system of veins (Batson's plexus) along the spinal column and so to the intracranial sinuses?

Is there any special reason why the cavernous sinus should have been infected instead of another dural sinus?

A. A Neurologist writes: Cavernous sinus thrombophlebitis usually arises from local infections of the face, ears, mastoids or the accessory nasal sinuses; but in this case there was no evidence of any such suppuration. There remain three other possible routes of infection:

i. An arterial embolus to the orbit with infection spreading intracranially along one of the ophthalmic veins;

ii. A general septicaemia with the cavernous sinus as the site of localized suppuration brought about by the stasis of venous blood in its meshes;

iii. The passage of an infected embolus along one of the bronchial veins to the terminal vena azygos, whence it might be forced during a fit of coughing into one of the anastomotic veins leading into the internal vertebral plexus. Once the embolus reaches this plexus, as Purdon Martin has shown with reference to emboli from the pelvis, it is likely to rise towards the plexus of veins below the foramen magnum. From this site it might pass in one of several directions, one of which is into the basilar plexus that lies on the clivus anterior to the foramen magnum.

In view of the post-mortem findings this third route seems to be the most likely one in this patient. Direct spread from the basilar plexus into the inferior petrosal, cavernous, and intercavernous sinuses would explain the finding of pus and exudates at the sites mentioned. The reason why the cavernous sinus is so heavily infected and none of the other sinuses shows any suppuration is probably due to the fact that it is the only dural sinus which has a thick network of trabeculae to impede the venous flow and form an ideal lodgement for emboli.

Cavernous sinus thrombophlebitis is uncommon in pulmonary infections, but it is by no means unknown. A recent case in a woman of 27 years with multiple pulmonary abscesses has been reported by E. A. Brenthauer (J. Amer. Med. Assoc., 1947, 134, 1950).

An Anatomist writes: I agree with the three possible routes of infection mentioned. Of the three, I would say that (i) is much the most probable: an arterial embolus, not via the orbit, but directly to the cavernous sinus walls. In Cunningham's *Textbook of Anatomy* (8th edition) p. 1223, under internal carotid artery, it states that 'small branches are distributed to the walls of the cavernous sinus'. The fact that the abscess was in the right lung and that the right cavernous sinus was infected would then have no special significance. The meningeal changes around the pituitary fossa and on the basi-occiput can easily be explained by thrombophlebitis spreading from the cavernous sinus into the inferior petrosal sinus and the network of the basilar sinuses.

(ii), of course, is possible.

(iii): I should be very reluctant to accept the explanation of a spreading thrombophlebitis via the internal vertebral plexus, although it is quite correct anatomically that this plexus drains into the posterior tributaries of the posterior intercostal veins, as do the bronchial veins. From the internal vertebral plexus the infection would have to ascend a long way and would finally reach the posterior cranial fossa. If any large venous sinuses became involved, it would be the transverse and sigmoid sinuses, and not the cavernous sinus. With such an ascending infection by contiguity, one ought to find evidence of meningitis in the vertebral canal and in the posterior cranial fossa.

(The neurologist states that in (iii) he has in mind an infected venous thrombus and not continuous spreading infection by contiguity.—Editor).

VERENIGINGSNUUS : ASSOCIATION NEWS

TRANSVAAL MEDICAL GOLFING SOCIETY

A most successful and enjoyable week-end was spent at Maccauvlei Golf Course on 28-29 October by 60 members of the Medical Association, 25 of whom were accompanied by their wives.

The results of the competitions were as follows:

1. Roger Cup (Medal Competition):—

Winner	Dr. E. W. Turton	78—6—72 Nett.
Runner-up	Dr. P. Dennehy	92—18—74 Nett.
Best Gross	Dr. E. W. Turton	78

Dr. L. I. Braun 81 received the trophy according to the Committee's ruling of only one trophy per player in each competition.

Women's Section:—

Winner	Mrs. P. Viviers	111—28—83 Nett.
Runner-up	Mrs. O. S. Heyns	100—15—85 Nett.
Best Gross	Mrs. E. S. Adderley	94

Sweep Winner drawn by Dr. P. J. Loots

2. President Cup (Point Stableford Competition):—

Winner	Mr. W. Girdwood	35—3—38
Runner-up	Dr. H. Grusin	27—9—36
Third Place	Dr. J. C. Braudo	32—3—35

Women's Section:—

Winner	Mrs. L. J. F. Loewenthal	35
Runner-up	Mrs. E. Rocher	31
Third Place	Mrs. A. J. S. Boyd	29

Sweep Winner drawn by Dr. P. Peltz

3. 4-Ball-Better-Ball Bogey-Stapleford:—

Winners	Drs. P. Dennehy & W. Scott	44
Runners-up	Drs. J. C. Braudo & H. Grusin	40
Third Place	Dr. B. Mundel & Mrs. Snyman	36

Sweep Winner drawn by Dr. W. G. McDavid

A dance was held at the Dormy House on Saturday night, which was well attended and obviously enjoyed by all present.

The gratitude and thanks of members attending the meeting was expressed to the Committee of the Maccaulei Golf Club for the courtesy extended in making the course and premises available for the meeting, and to the Secretary of the Maccaulei Golf Club for his untiring help in running the competitions.

PASSING EVENTS

THE BART'S DINNER: CONGRESS WEEK 1951

A Bart's Dinner is being held during Congress week next year, on the evening of 19 July.

The arrangements are in the hands of Dr. J. Gluckman, 1206, Medical Centre, Johannesburg.

Would all Bart's men in South Africa, whether they are attending Congress or not, please communicate with him in order that a full list may be compiled?

'MUSICAL' ANAESTHESIA

'Musical' anaesthesia has been introduced in the six major operating and preparation rooms of the Nathan Goldblatt Memorial Hospital in Chicago. The night before operation, each patient is asked to choose the musical selections he prefers. Adults may choose classical, semi-classical or popular pieces. Children are offered such favourites as the music from *Pinocchio*, *Cinderella* or other Walt Disney films.

Magnetic tape recorders of the music selected are set up in a master control room to play the chosen concert. The musical programme begins in the preparation room and continues in the operating theatre. It is heard only by the patient, who wears light-weight earphones.

This ancillary form of sedation is being used for patients who are being operated on under local anaesthesia. The music helps to alleviate the tension of the patient on the operating table and has been claimed to be most effective where routine sedatives do not help the patient much or cannot be administered because of the patient's age or severe illness.

SALT SUPPLEMENTS IN INDUSTRY

At their Maydon Wharf factory in Durban, Messrs. Lever Brothers are once again demonstrating their concern for employee welfare by the issue of special salt tablets to factory workers during the summer months. These tablets, taken with water, replace the salts and liquid lost by the body through

perspiration and greatly reduce the possibility of excessive industrial fatigue. Resistance to illness is also increased by this replacement of salt and liquid in the system.

The tablet-doses have been carefully worked out for use in various departments. For instance, certain workers are given one tablet daily whilst others, working where there is more heat or where physical exertion is greater, are supplied with two daily.

A study of natural perspiration has revealed that, normally, persons lose three to four pints of fluid daily, but in exceptional cases as much as 35 pints can be lost. To replace the normal loss in Durban, the intake of liquid should be at least six pints daily, during the summer months.

'Heat stroke' is no figment of the imagination. It does exist and where humidity is high it has been found that this condition is more prevalent than in areas where it is low, even though temperatures may be higher. This is explained by the fact that in humid climates perspiration is not readily absorbed by the atmosphere which is already heavily laden with moisture and so, with heat production increased and heat loss retarded, there is little cooling by evaporation from the skin surface. This results in the blood becoming overheated.

Water is a most imperative need. It is possible to go for several weeks without food as long as water is available, but without water no one can exist for more than a few days. Its main functions are to keep the tissues moist; to dissolve various food substances and aid chemical reactions that occur in the process of digestion. It also maintains the normal salt concentration of the tissues.

Salt is an important part of the diet for it is necessary in the formation of hydrochloric acid in gastric secretion. It also regulates the density of the body fluids upon which many organic functions depend, and which are impaired by excessive loss of salt.

Commenting on this scheme in the *Sunday Tribune* Dr. G. H. Gunn, Durban's Medical Officer of Health, said: 'It is an excellent idea and should be extended to other factories. It should help considerably in lowering the industrial sickness rate brought on by excessive heat and humidity during a normal Durban summer and could be extended to many types of employees in various industries'.

Congratulations to Dr. and Mrs. Samuel Garber on the birth of a son in Johannesburg.

We regret to record the death of Dr. M. K. Cooper of Vryheid, Natal.

IN MEMORIAM

DR. C. J. ALBERTYN

Prof. A. Piiper (Pretoria) skryf: Die afsterwe van dr. C. J. Albertyn beroof Suid-Afrika van 'n figuur op mediese gebied wat die land kwalik kan mis. Albertyn se invloed het waarskynlik verder gereik as wat ons, wat so naby aan hom gestaan het, op hierdie stadium kan beseef. Dit sal, hoop ek, nog jarelang nawerk en nog lank sy invloed op ons geneeskundige lewe hê. Persoonlik het ek Albertyn sedert ongeveer 1920 geken. Ons het vriende geword, maar dit was nie altyd maklik nie en dit was ook nie van die begin af so nie. Ons het verskil van mening en opvatting gehad; ons het ruterlik geveg, en noudat die tyd vir 'n terugblik gekom het, moet ek verklaar dat gedurende al die jare my waardering, en ek kan sê my bewondering, vir die persoon van Albertyn gegroei het. Dit vereis besondere eienskappe om, soos hy dit gedoen het, van 'n doodgewone praktisyn op 'n doodgewone dorpie, een van die toonaangewende figure in die mediese wêreld te word.

En dit geld nog des te meer in die geval van 'n Afrikaanssprekende persoon. As hierdie toevoeging by sommiges misken verbasing wek, laat hulle dan daaraan dink dat dit deur manne soos Albertyn so gekom het dat Afrikaans tans in mediese kringe in Suid-Afrika die posisie inneem wat nou so vanselfsprekend lyk. Dit was nie altyd so vanselfsprekend nie.

Ten spyte van 'n slegte gesondheid en 'n moeilike liggaam, het Albertyn sy taryke en somtyds veeleisende funksies tot die laaste vervul. Dit sou te ver voer om op besonderhede in te gaan. Laat ek net herinner aan sy langdurige diens op die Federale Raad, aan sy bedrywigheid in verband met die planne wat daar gemaak is vir die hervorming van ons genees-

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kundige dienste, met die natuurlike uitvloeisel daarvan sy lidmaatskap van die Gluckmankommissie. Dit was werk na sy hart, en aan hierdie kommissie se arbeid het Albertyn met hart en siel deelgeneem. Dit neem niks aan die verdienste van die ander lede en van die so by uitstek verdienstelike voorsitter af as 'n mens sê dat Albertyn die siel van die kommissie was en meer as enig ander individuele lid tot die rapport bygedra het.

Dan is daar sy aktiwiteite op die Geneeskundige Raad waarvan hy jarelank lid was en waar hy sy stempel afgedruk het op tallose planne en maatreëls wat die mediese lewe in Suid-Afrika sterk beïnvloed het. 'n Mens moet maar net die notules lees om te sien watter groot rol hy daar gespeel het. Hy kon ongetoond sy woord doen; daar was nooit enige twyfel omtrent sy bedoelings nie; maar daar was altyd 'n ridderlikheid ook in sy skerpste vertoë, en waar hy miskien nou en dan oor die skreef gegaan het, was hy altyd die eerste om dit in te sien en weer te probeer regmaak. Want deur die hele lewe van Albertyn loop daar 'n draad van simpatie en arbeid ten behoeve van diegene wat hy as die lydende party gesien het. So was sy houding teenoor pasiënte, en so was dit ook in baie gevalle teenoor die naturel.

Albertyn kom van 'n gesiene familie, en het sy opvoeding vir 'n groot deel in Holland geniet. En so ooit, dan is hier 'n geniet die regte woord. Selde het 'n Afrikaner so goed tuis gevoel in Holland; selde het een daarin geslaag om soveel goeds uit die ou bakermat terug te bring. Dit beteken nie dat Albertyn sommer voetstoots alles aangeneem en opgeneem en vereer het wat hy daar leer ken het nie. Hy het leer onderskei en hy het ook meedoënloos grappies kon maak oor wat hy as snaaks beskou het onder die mense wat hy tog as sy voorouers beskou het. Maar hy het 'n oop oog gehad vir die goeie, en ernstig probeer om dit oor te plant. In hierdie dinge was Albertyn somtyds 'plus hollandiste que les hollandais'. Hy het dit waarskynlik besonder goed getref wat tydsbestek en omgewing aangaan. Groningen in sy studentedae was waarskynlik sterk belangstellend in Suid-Afrika, en Albertyn met sy eendelose belangstelling in alles en nog wat, en sy lewendige sin vir humor, het waarskynlik talle harte in Holland bekoor. Hy het dan ook 'n besonder sjarmente vrou teruggebring wat hom tot groot steun was in die moeilike jare wat ook hom nie gespaar is nie.

Albertyn was die perfekte lid van komitees en vergaderings. Daar was sy deurdringende verstand, maar daar was ook sy mediese sin. Hy was een van die seldsame mense wat nie alleen hulle papiere en notule en dokumente stiptelik in orde gehou het nie, maar hy het dit ook alles gelees, en meer nog, hy het dit bestudeer en onthou, en hy het geweet hoe om dit te berde te bring as die tyd daar was, of soos sy teenstanders somtyds gedink het, as die tyd daar nie was nie. Albertyn was 'n gevaarlike teenstander as dit op feite neergekom het.

Mediese opleiding het in ruime mate sy belangstelling gehad. Voorveger van kontinentale metodes was hy altyd, en op hierdie gebied het hy vir ieder wat dit wil raaksien, duidelike spore agtergelaat. Die instelling van die verpligte internskap mag die geesteskind van Dart gewees het, maar daar was geen warmer ondersteuner as Albertyn nie, en alweer, ook al was die idee van 'n inspekteur van internskappe weer een van die vernuftige idees van Dart se vrugbare brein, dit was Albertyn wat in hierdie pos die ding tot 'n sukses gemaak het. Ook hier was weer die element in Albertyn se karakter om te help waar hy nood gesien het, op die voorgrond. Hy was die man wat gesorg het dat daar poste beskikbaar gekom het, dat die provinsiale outoriteite die plan welgesind geword het, dat daar redelike salarisse betaal is en dat die jong mense hulle plekke gekry het. Daar was skerp kritiek op die hele onderneming van sommige kante, en dit is in die allergrootste mate aan Albertyn te danke dat alles so bevredigend afgeloop het. Wat Albertyn in hierdie verband altyd voor die gees gesweef het was om die ding nog 'n stap verder te neem. Sy idee was om die M.B., B.Ch.-graad te laat vir wat dit is, 'n akademiese kwalifikasie, wat dan gevolg sou word deur 'n jaar van praktiese opleiding, wat dan weer beëindig sou word met 'n staats-eksamen, en 'n staatsdiploma, wat uniform sou wees oor die hele land. As Albertyn geleef het, het ek die oortuiging dat dit eendag so sou gekom het.

Albertyn was 'n figuur wat pas langsamerhand tot sy reg sal kom. In hierdie paar reëls kan ek hom geen reg laat wedervaar nie. Daar was nog sy aktiwiteite as dokter, as sjirurg, as distrikgeneesheer. Nog net dit: waar 'n mens die geskiedenis van die mediese professie in Suid-Afrika oor die

laaste twintig jaar nagaan, daar duik altyd die figuur van Albertyn op, somtyds as leier, somtyds as kritikus, maar altyd van belang en altyd besiel met die beste bedoelings. Laat ons hom, en al wat hy vir ons gedoen het tog nie vergeet nie. Hy het in sy lewe nie die waardering geniet wat hom toekom nie. Die Mediese Vereniging deel somtyds medaljes uit vir besondere dienste; is daar dan nie 'n moontlikheid om dit nou 'n keer posthuum te doen nie?

At the last meeting of the Executive Committee of the S.A. Medical and Dental Council, the President addressed the members as follows: 'Since our last meeting we and the profession have suffered a grievous loss by the death of Dr. Christoffel James Albertyn. Dr. Albertyn has for many years been in the front rank of medical practitioners in South Africa. His sound judgment, his active brain and his studied approach to medical, social and state problems have been of inestimable value to the country and the profession. As a member of this Council he furthered the cause of medicine in South Africa. After his appointment in the service of the Council as Inspector of Interns he was able to make, perhaps, his most valuable contribution to the advancement of the standard and quality of medical practice. His untiring and self-sacrificing work in these years has been very highly appreciated by those of us who knew the quality and quantity of that effort. It is a source of satisfaction to me that I was able to tell him when he was in hospital how very highly we thought of his work and how grateful we were to him. He in turn expressed to me his appreciation of the willing help which the Registrar has given to this work which was his special interest.'

Now he has gone and I wish on behalf of this Executive and the South African Medical and Dental Council, to express our very real sympathy with his widow and children who mourn the loss of a good and lovable husband and father.'

The President of the Medical Association of South Africa writes:—

The passing of Dr. C. J. Albertyn removes from the amphitheatre of medical politics one who for many years has been an outstanding personality. In his time he played many parts. As a general practitioner and district surgeon who practised for many years, first in Pretoria and subsequently at Maritzburg, he attracted attention by reason of his vigorous activity and enthusiasm for his profession. He was elected a member of Federal Council in 1929 and served continuously on that body until 1945; after a short lapse he was re-elected in 1948 and was still a member at the time of his death. In 1938 he became Vice-President of Federal Council, which office he held for four years.

He served for several years as a member of the South African Medical and Dental Council until his appointment to the full-time post of Inspector of Internships. For a time he acted as assessor to the Commissioner for Workmen's Compensation. In 1943 he was appointed a member of the Commission which carried out a survey of medical services in the Union and subsequently drew up the well-known Gluckman Report.

It is particularly in terms of his work for the Medical Association that I wish to pay tribute to Dr. Albertyn. He was one of its staunchest members and because of his enthusiasm and capacity for work was elected to serve on many of its Committees in the course of his career. It was his proud boast that during his membership of Federal Council he did not miss a meeting. It was characteristic of the man that he kept for his personal use a complete file of the Minutes, carefully indexed and tabulated, for which reason he became noted for his detailed knowledge of the constitution and work of the Association. He was looked upon as an authority on the records and frequently at meetings of Federal Council his intimate knowledge of the rules and regulations, and of past transactions, was of great value in clarifying discussions which tended to become confused.

In the councils of the Medical Association C. J. Albertyn was a forceful character who did not hide his light under a bushel. His assessment of men and matters and his clarity of thought were valuable assets in debate, but he was inclined on occasion to be aggressive and prone to use the bludgeon. One cannot doubt his sincerity in all that he did, nor question his honesty of purpose, but his tactics did not always conduce to making friends of his colleagues. His intimates recognized

beneath a somewhat harsh exterior traits of a more gentle character not apparent to individuals whom he might have antagonized. He was a life-long friend of the late Dr. C. L. Leipoldt who shared with him a mutual admiration.

Dr. Albertyn will be missed in the medical world by friend and foe alike and his demise at a comparatively early age is deeply regretted. To his wife and family to whom he was a devoted husband and father the sincere sympathy of his colleagues and very many friends is extended.

A. W. S. Sichel,
President,

Cape Town. Medical Association of South Africa.
27 November 1950.

REVIEWS OF BOOKS

THE CANCER PATIENT

The Cancer Patient. By B. A. Meyer, M.B., Ch.B. (Ed.), L.R.C.S. & P. (Ed. and Glas.) and I. S. Orgel, M.D. (Dublin). (Pp. 87 + vii. 7s. 6d.) London: Messrs. J. & A. Churchill Limited. 1950.

Contents: 1. Cancer Causation. 2. Methods of Treatment. 3. The Fungus Metabolite. 4. Ascorbic Acid Complexes. 5. The Dual Approach at Work. 6. The Suspected Cancer. Index.

This volume is written by two medical practitioners who have been impressed by the observation that trees with active canker growths develop a defensive mechanism. This has suggested to them a preparation for chemotherapy in advanced cancer cases. It is claimed to give freedom from pain and alleged to be a valuable ancillary treatment to other forms of therapy such as X-rays and surgery.

The second principle of their chemotherapy is based on the claim of a perverted metabolism of vitamin C which exists in cancer patients. The deficiency of vitamin C in the malignant patient is remedied by supplying the ascorbic acid in a form in which the cell with an injured Golgi apparatus can use it, viz. by combining the vitamin C complexes with metallic iron so as to produce a specific action at the site of the tumour.

The authors claim to have produced a new chemotherapy for advanced cases of cancer. Their protocols are based on 15 cases.

THE PEOPLE'S HEALTH

The Health of the People. By S. Leff, M.D. (Pp. 288. 12s. 6d.) London: Victor Gollancz Ltd. 1950.

Contents: Part I: Historical Survey. 1. An Introductory Survey. 2. The Birth of the Health Services: Sixteenth Century—1834. 3. The Birth of the Health Services 1834-48. 4. The Growth and Development of the Health Services: 1848-75. 5. Living Conditions: 1875-1919. 6. Medical Condition: 1875-1919. 7. Social and Political Background: 1875-1919. 8. The Health Services in Transition: 1919-48. Part II: The Present Health Services. 9. The Maternity Services. 10. Care of the Child. 11. The General Practitioner Service. 12. The Hospital Services. 13. Rehabilitation. 14. The Industrial Medical Services. 15. The Administration of the Health Services. 16. Conclusion.

This is a most interesting book and all those now concerned with the establishment of medical services should read it. The efforts in England to conquer disease and the development of state medical services in England are described, but attention is also drawn to the state of affairs in other countries. The development in England is characterized by three landmarks (1834, 1929 and 1946). The National Health Service Act of 1946 transferred practically all medical services to the control of the Central Government either directly (as in the control of hospitals) or indirectly (through executive councils or through local health authorities).

The author points out that the promotion of health is a complex affair, and improvement of environmental conditions is essential, but the means to improve our medical services must not be ignored. Improvement of social conditions and reorganization of medical services should both be tackled at the same time. Success can only be achieved through the united efforts of large sections of the population against insanitary conditions, overcrowding and malnutrition. Doctors must unite their efforts with those of all progressive sections of the people. The general practitioner should become the

co-ordinating centre for all health workers dealing with the patient; he is in the front line in the battle against disease. With unsatisfactory general medical practice, the patent medicine vendor is the one who benefits. Reforms must bring the family doctor to every citizen, and every citizen is entitled to a doctor without the payment of a fee. Through Health Centres the general practitioner can maintain his position at a higher level, having now the additional advantages of modern scientific medicine. The experiment in England is being watched in this country, as in others, and this book gives a comprehensive survey of the health services in the light of the National Health Service Act.

QUINIDINE AND THE DISORDERED HEART

Quinidine in Disorders of the Heart. By Harry Gold, M.D. (Pp. 115 + x. 16s.) London: Cassell & Company Limited. 1950.

Contents: 1. Indications. 2. Therapeutic Actions. 3. Toxic Actions. 4. Effect on the Electrocardiogram. 5. Absorption, Blood Levels and Elimination. 6. Tolerance. 7. Dosage. 8. Maintenance and Prophylaxis. 9. Premature Contractions. 10. Sinus Tachycardia. 11. Paroxysmal Auricular Tachycardia. 12. Nodal Tachycardia. 13. Auricular Flutter. 14. Auricular Fibrillation. 15. Ventricular Tachycardia. 16. Ventricular Fibrillation. 17. Disorders of Cardiac Rhythm of Undetermined Mechanism. 18. Coronary Thrombosis. 20. Thyrotoxic Cardiac Disorders. 21. Anesthesia and Surgery. 22. Combined Use of Quinidine and Digitalis. 23. Quinidine in Children. 24. Quinidine and Related Compounds. 25. Preparations of Quinidine. 26. Routes of Administration. Bibliography. Index.

This monograph on the use of quinidine will be of great value to the general practitioner, the cardiologist and the medical student. The information is based on Dr. Gold's practical experience with cardiac patients, with pharmacological and clinical research, and with teaching of laboratory and clinical pharmacology. The mechanism, therapeutic objective, sources of danger, dosage schemes and toxic effects of quinidine are all considered.

The importance of judgment based on experience in the use of quinidine is stressed. Some patients have used quinidine in large doses daily for many years. Each patient presents a special problem; this book shows the way to achieve successful results.

MEDICAL EMERGENCIES

Emergencies in Medical Practice. Edited by C. Allan Birch, M.D., F.R.C.P. (Pp. 564 + xii. With 131 illustrations. 8 in. Full Colour. Second ed. 27s. 6d.) Edinburgh: E. & S. Livingstone Ltd. 1950.

Contents: 1. The Emergency Bag. 2. Acute Poisoning. 3. The Hazards of Medical Procedures. 4. Acute (Non-Surgical) Abdominal Catastrophes. 5. Other (Non-Surgical) Abdominal Emergencies. 6. Medical Emergencies in Obstetrics and Gynaecology. 7. Respiratory Emergencies. 8. Cardio-Vascular Emergencies. 9. Emergencies in Blood Diseases. 10. Fits, Faints and Unconsciousness. 11. Neurological Emergencies. 12. Psychiatric Emergencies. 13. Medical Emergencies in Diabetes. 14. Medical Emergencies in other Endocrine Disorders. 15. Medical Emergencies in Renal Disease. 16. Medical Emergencies in Infancy and Childhood. 17. Emergencies in Infectious Fevers. 18. Emergencies in Tropical Medicine. 19. Emergencies in Industrial Medicine. 20. Medical Emergencies at Sea. 21. Medical Emergencies in the Air. 22. Ophthalmic Emergencies. 23. Emergencies in Skin Disease. 24. Emergencies During Anaesthesia. 25. Post-Operative Medical Emergencies. 26. Bites and Stings and Miscellaneous Emergencies. 27. Medico-Legal and other Non-Clinical Emergencies. 28. Practical Procedures. Appendix 1 and 2. Index.

This is the second edition of a very useful book published within the space of two years and is clear evidence of its well-merited popularity. In the columns of this *Journal* the first edition was reviewed and it was remarked how useful and well-written a description of the measures and treatments in medical emergencies the Editor and his colleagues had offered.

There is not much time to dither when confronted by an emergency in a medical case, and skill and experience will determine the outcome just as surely as in a surgical catastrophe. The doctor who has read this book will read much of what he already knows, but he will also gain a great many valuable pointers in the handling of emergencies. There are no revolutionary treatments, but the material is well presented, easily understood, and certainly up-to-date.

In reading this book one is forced to conclude that either the Editor differs from us in what we consider an emergency, or else the title is misleading and should be altered. Anaemia is not an emergency. The treatment of infestation with tape-worms has as yet not been one of the reasons to get the

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reviewer out of bed at midnight. Infections of the skin can also as a rule wait for the morning for treatment, and quite a few of the conditions in obstetrics and gynecology can also certainly not be classed as emergencies. This criticism does not, however, detract from the value of what has been written on these subjects. On the contrary, the treatments suggested are sound. Also sound and informative is the section on aviation medicine, a section which will well repay study considering the large numbers of sick people who fly and who ask for advice.

Drugs and their equivalents are detailed in an appendix and various manoeuvres such as transfusion are discussed fully.

This book should be available to all recently qualified doctors, and would not be out of place on the shelves of all practitioners.

OCULAR PROSTHESIS

Recent Advances in Ocular Prosthesis. By J. H. Prince, F.B.O.A., F.S.M.C., F.R.M.S., F.Z.S. (Pp. 155 + viii. 20s.) Edinburgh: E. & S. Livingstone. 1950.

Contents: 1. The Technique for making Conjunctival Impressions. 2. The Meshed Implant Technique. 3. The Treatment of Unusual Cases. 4. Plastic Surgery. 5. Patient Posture. 6. The Properties of Methyl-Methacrylate. 7. The Preparation of Artificial Irides (Eight Methods Described). 8. The Personal Preparation by the Practitioner of some of the Materials used in the making of Ocular Prostheses. 9. The Fabrication of Acrylic Eyes. 10. The Processing of Eyes in Large Numbers. Index.

It has been estimated that before World War 2 there were 350,000 people in Great Britain who wore artificial eyes. Battle casualties, air raids and flying bombs increased this number greatly.

One of the advances described by Prince is the improved motility of the prosthesis. This is achieved by the use of implants into Tennon's capsule or the scleral shell. Originally described by Mule, who implanted glass or silver balls, the operation fell into disuse owing to the frequency with which the implant was extruded.

Methyl-methacrylate and such metals as vitallium and tantalum are better tolerated by the tissues. Cutler, in America, popularized an implant to which the recti as well as the prosthesis could be attached. When an implant is used, removal of the eye becomes an operation which cannot be delegated to the house surgeon. It requires more time, skill and attention to haemostasis than the conventional operations. Even with modern methods and materials some implants are extruded.

Prince's book is well illustrated and contains much valuable information about the different types of implants and the techniques for taking impressions of the socket and for making plastic artificial eyes. The progress of World War 2 makes the subject uncomfortably topical.

CORRESPONDENCE

SUBMUCOUS FIBROMYOMA AND PREGNANCY

To the Editor: Among the commoner causes of sterility and early miscarriages must be placed submucous fibroids. It is rare that a patient goes on to near full term with such a tumour *in utero*.

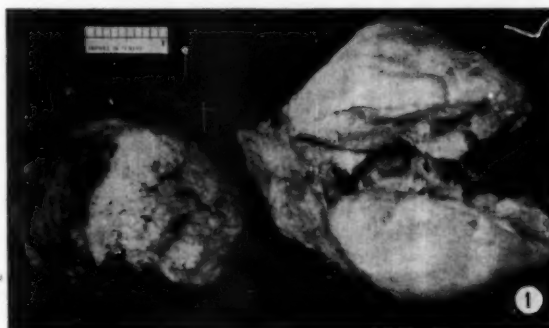
S. P., an Indian female aged 38, was spontaneously delivered of a living premature infant on 25 January 1950. She had commenced menstruating at 14 years, was regular with no history of pain, menorrhagia or metrorrhagia. From the fourth post-partum day she noticed a mass appearing at the vulva when straining. There was difficulty on micturition, relieved by placing the tips of her fingers above the pubis and drawing the uterus up into the abdomen.

The patient was discharged on 4 February 1950 and readmitted on 14 February. Her notes at this time show: 'Uterus just palpable at the brim abdominally.'

Vaginal Examination: 'The cervix forms a rim seen through a speculum. Protruding through it is a mass, the surface of which is irregular, greyish red with fine striations. There is contact bleeding. On palpation the mass felt firm. It was not possible to get the tip of the finger beyond the rim of the cervix due to the presence of the mass. The diameter of the cervical external os was 1½ inches. On bimanual examina-

tion the uterus was about the size of a 2-3 months' pregnancy, firm and mobile. There was no cupping at the fundus suggesting an inversion of the uterus.' The differential diagnosis lay between a partially inverted uterus and a pedunculated fibroid attached to the fundus.

Operation Findings. A laparotomy was done 17 February under spinal anaesthesia. There was no inversion of the uterus. A hysterectomy showed the presence of a pedunculated submucous fibroid, 3" x 1½", with its base at the fundus near the end of the left tube and its free end projecting through the cervix. An attempt to remove it revealed no line of demarcation between tumour mass and uterus. At its base the tumour seemed friable, suggesting early sarcomatous change (Fig. 1). It appeared best to do a total hysterectomy because



of the suspicion of early malignancy. The desire of the husband and the wife for her sterilization made the decision easier.

Pathological Report. Sections of this specimen show the presence of a fibromyoma in which there is evidence of hyaline degeneration and recent haemorrhage. Section of the endometrium shows the presence of proliferation without cystic change.

Conclusion. A case is reported of a relatively large pedunculated fibroid found at the end of a normal labour.

M. G. Mayat, M.B., Ch.B., Wits.
Alan B. Taylor, F.R.C.S., Edin.

McCord Zulu Hospital,
28 McCord Rd.,
Durban.
4 November 1950.

NATIONAL HEALTH COUNCIL AND SANTA'S TUBERCULOSIS CONTROL PROGRAMME

To the Editor: The impression may have been created that expert medical opinion in the country does not support the programme that SANTA has put forward. This impression is quite erroneous. The Control Programme, while it was being drawn up, was referred to many medical experts and experts in other related walks of life. Their ideas are, in fact, incorporated in the document, which in broad principle has been approved and is strongly supported throughout the country.

This was clearly shown at the recent meeting of the National Health Council. The Standing Committee, having discussed the programme twice, recommended its adoption to the Council. It was discussed throughout the whole of Tuesday, 31 October, the Council moving through the programme point by point. *Point by point it was accepted, with no dissenting vote.* Criticisms and suggestions were made, the result of which will make the document stronger and better before it is presented, as is planned by SANTA, by a deputation to Cabinet.

The National Health Council decided *officially* to support this deputation, again with no dissenting vote, and nominated the Chairman of their Standing Committee, Dr. E. Cluver, ex-Secretary for Health and Director of the Institute of Medical Research, to represent them on that deputation in support of SANTA. Incidentally, during the course of the debate, Dr. Cluver recused himself from the Chair to support

the item in SANTA's programme dealing with the use of BCG. In doing so, he was following the example of Dr. Gale, who had, at the beginning of the debate, recused himself so as to speak freely in criticism of SANTA's programme.

SANTA's programme calls for three lines of approach to the disease to establish a common national campaign in which the Government, the Local Authority and the general public can co-operate. Briefly, these lines cover:

1. Facilities for finding, isolating, treating and rehabilitating those suffering from active disease.

2. Measures through improved nutrition, better sanitation, better housing and increased knowledge of the principles of good health, and the immunization rendered by BCG vaccine so as to increase the capacity of the whole community to resist the disease.

3. Special care of the patients and the patients' dependants lest economic ruin be followed by disease in the closest contacts of those who are ill.

It is estimated by SANTA that such a campaign will require less than an outlay of £6,000,000 on capital costs spread over a period of five years, and running costs eventually rising to no more than £5,000,000 a year. Fully accepting the financial implications, the Standing Committee of National Health Council considered, none-the-less, that this expenditure was vital to stop the rot at present destroying the whole basis of our society and reckoned also that if this money was not spent now, vastly more would have to be spent in the not distant future.

The Council was naturally perturbed by the vast problem of poverty in the Union. Almost every member must have been conscious of the difficulty of solving tuberculosis problems in the circumstances. But to call, as the Secretary for Health did, for an improvement in these economic conditions without being able to formulate any campaign that would immediately alleviate a problem that has its origin in low productivity, did not convince the Council.

So far from seeing SANTA's programme as a luxury the Union could ill afford, it was felt, I think, by all as the only practical approach to the problem.

The hope that 'alles sal perhaps reg kom' will remain a pious, unrealistic and idealistic hope for many years to come. We are confronted now with a mass of active, infectious tuberculous persons, spreading disease wherever they go. Even if we can succeed only in isolating part of this mass and treating and arresting their disease, even, that is, if we can do no more than check the spread of disease in the meantime, that is what the situation and the public of the Union are calling for, and that is what the National Health Council, by its resolutions, called upon the Minister for Health and the Government to do.

G. E. Stent,
Secretary

SANTA Office,
347 West Street,
Durban.
13 November 1950.

BILIARY SURGERY

To the Editor: Drs. Lannon and Katz are to be congratulated on their 10-year statistical survey of biliary surgery at the Johannesburg General Hospital.¹ It is to be hoped that their example will be followed at other centres and for other lesions. Some of their statements invite comment:

1. There were approximately 73 bile passage operations yearly. For such a large institution this seems surprisingly few. Even without statistics, the high incidence of biliary disease is apparent in East London. Is it possible that, for some reason, the incidence is less at Johannesburg? Having practised both in London and in East London, I can say that the relatively high incidence in the latter town is striking. Tentatively I have ascribed it to the richer diet and to the slower tempo of life in a warmer country.

2. The authors ascribe the improved results in the second five-year period, partly to the fact that liver function tests were used pre-operatively. I feel that these tests are valued too highly. We have had 50 years of practice in correlating the blood urea percentage with the prognosis of surgical operation. Our experience with these liver function tests has been too short; we cannot yet assess an operative risk on the basis of such untried tests. Estimation of prothrombin time before and after vitamin K injection is a test of some value. If, under

the stimulus of vitamin K, the liver is still too weak to manufacture prothrombin we should correct the deficiency with blood transfusion. Blood albumin should also be assessed; any deficiency may be improved by transfusion of blood or plasma. These two tests (prothrombin and blood albumin) probably also have some prognostic influence for the surgeon;² but, in the complete picture, such influence is at present minute; it can claim no appreciable part of the credit for halving the mortality figures.

However, these biochemical tests must be welcomed. They are part of a large-scale clinical experiment; in time they will be correlated with clinical findings.

3. The authors regard all deaths from pulmonary emboli as preventable. There has been a great wave of enthusiasm on this subject in surgical circles. Influenced by high-pressure literature, we have been led to believe:—(a) That all phlebotrombosis is diagnosable and (b) That it is preventable.

Now we must come out of the realm of illusion and recognize the sad fact that phlebotrombosis is only recognizable sometimes; even then, treatment is effective only in a proportion of these cases. de Bakke, one of the pioneers in this field, has recently summed up the whole position.³ Even Dicoumarol, which came in with such a fanfare of trumpets is now regarded with disfavour. It is true that Dicoumarol has lowered the death rate from embolism; but it has increased the death rate from Dicoumarol poisoning. Thus the total death rate remains the same (but it is cheaper and pleasanter to die from pulmonary embolism than from Dicoumarol poisoning).

4. Drs. Lannon and Katz rightly emphasize that the common duct should be explored more frequently. Yet ordinary methods of exploration with probe, scoop and Desjardins forceps often fail to reveal the stone which lurks in the depths of the duct. This is particularly true of an ampullary stone. Astonishing proof of this was furnished by Mahorner,⁴ who explored the common duct routinely by opening the duodenum; in his series many of the common ducts appeared to be unobstructed when investigated from above; but an obstruction was found in the ampulla exposed by duodenotomy.

But routine duodenotomy increases the operative risk. I would like to mention two simple methods (which I discovered accidentally) for locating and removing such stones:

(a) Push a catheter or bougie down the common duct from above, so that its end projects into the duodenum; now palpate against the rigid background of this splint, and a stone, otherwise impalpable, may easily be felt.

(b) I once recovered a stone with great difficulty from the ampulla; as the stone came to light, my assistant casually sucked it up with the electric sucker and it rapidly disappeared into the waste bottle. I took the hint and, since then, I have always explored the ducts with the sucker, pushing it into the remotest proximal and distal depths.

Drs. Lannon and Katz go on to say that a T-tube in the common duct is necessary only in the case of stone or debris. But why use it, once the stone is removed, unless the bile is infected? About 50 years ago Halsted removed a stone from the common duct of his own mother and later himself suffered the same operation. Both cases convinced him that there was much to be said against the routine use of a T-tube. His ideas have been followed since by many surgeons, notably Rienhoff.⁵ A T-tube prolongs convalescence because it always produces a temporary bile fistula; it also provides an avenue for the entrance of infection into the biliary tree. When the sphincter of Oddi has been well dilated (preferably with a Hegar's dilator) the T-tube should hardly be necessary.

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4. Mahorner (1949): *Ann. Surg.*, 129, 770.
5. Rienhoff (1949): *Ann. Surg.*, 129, 774.

Bernard Goldstone, B.Sc., M.B., B.S., F.R.C.S. (Edin.)

27, Terminus Street
East London
15 November 1950